

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of the Wisconsin Department of Transportation for the Improvement of the Public Crossing of Letendre Avenue (STH 54/73) and for a Determination of the Adequacy of Warning Devices at the Public Crossing of Port Road (STH 73) with the Wisconsin Central Ltd. Tracks in the Village of Port Edwards, Wood County

9164-RX-543

FINAL DECISION

By letter dated February 16, 2004, the Wisconsin Department of Transportation (DOT) filed a petition with the Office of the Commissioner of Railroads (OCR) under §§86.13, 195.28 and 195.29, Stats., for the improvement of the public crossing of Letendre Avenue (STH 54/73) (crossing no. 392 710T / MP 45.14) and for a determination of the adequacy of warning devices at the public crossings of Letendre Avenue (STH 54/73) and Port Road (STH 73) (crossing no. 392 709Y / MP 43.97) with the Wisconsin Central Ltd. (WCL) tracks in the Village of Port Edwards, Wood County.

Pursuant to due notice, public hearing was held in this matter on April 16, 2004 in Madison, Wisconsin with hearing examiner Douglas S. Wood presiding.

On May 6, 2004, the hearing examiner issued a proposed decision. On May 11, 2004, the DOT filed comments supporting the proposed decision. The Commissioner adopts the proposed decision as final without change.

Appearances:

**Parties**

Wisconsin Department of Transportation, Petitioner  
by  
Mark Morrison, PE  
Grade Crossing Safety Engineer  
PO Box 7914  
Madison, Wisconsin 53707-7914

As Interest May Appear:

Wisconsin Central Ltd.  
by  
Terry Lee, PE  
Manager Engineering Services  
1625 Depot Street  
Stevens Point, Wisconsin 54481

## Findings of Fact

### THE COMMISSIONER FINDS:

The Wisconsin Department of Transportation proposes the improvement of the public crossing of Letendre Avenue (STH 54/73) and asks for an OCR determination of the adequacy of warning devices at the public crossings of Letendre Avenue (STH 54/73) and Port Road (STH 73) with the Wisconsin Central Ltd. (WCL) tracks in the Village of Port Edwards. The DOT plans to reconstruct Letendre Avenue (STH 54/73) in Port Edwards in the 2005 construction season. The DOT proposes that the railroad meet the highway reconstruction by reconstructing and improving the Letendre Avenue crossing. DOT proposes that the warning devices at the Letendre Avenue and the Port Road crossings be upgraded.

#### **Letendre Avenue (STH 54/73)**

Letendre Avenue is 44' wide in the vicinity of the Letendre Avenue (STH 54/73) crossing (including two 12'-wide travel lanes and two 10'-wide paved shoulders). There is a 6'-wide terrace and a 5'-wide sidewalk on the south side. Letendre Avenue (STH 54/73) intersects the tracks at an angle of 88°. The crossing consists of one mainline track.

DOT proposes that the railroad reconstruct its crossing because the existing rubber roadway and the timber-plank and asphalt sidewalk crossing surfaces are in poor condition. DOT proposes a concrete panel crossing surface extending from at least 1' behind the north curb to at least 1' beyond the sidewalk.

Letendre Avenue carried 6300 ADT (average daily traffic) in 2003. The DOT projects Letendre Avenue will carry 9950 ADT in the design year of 2014. The speed limit is 25 mph east of the crossing and 35 mph west of the crossing.

There are six through train movements per day over the Letendre Avenue crossing location at a timetable speed of 25 mph. The railroad also operates 4 switch movements per day.

A driver traveling at 25 mph needs a distance of 187' to stop safely. The crossing is visible from over 900' on the east approach. Assuming a train speed of 25 mph, a driver traveling at 25 mph needs to see a train when it is about 270' from the crossing from a point 187' down the highway. The sight distance available in the two east quadrants from the safe stopping distance is 534' in the northeast quadrant and 348' in the southeast quadrant. Sight distance is adequate in these two quadrants.

A driver traveling at 35 mph needs a distance of 281' to stop safely. The crossing is visible from over 1000' on the west approach. Assuming a train speed of 25 mph, a driver traveling at 35 mph needs to see a train when it is 270' from the crossing from a point 281' down the highway. The sight distance available in the two west quadrants from the safe stopping distance is 119' in the northwest quadrant and 191' in the southwest quadrant. Sight distance is inadequate in these two quadrants due to houses.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the Letendre Avenue crossing is 560'. The available clearing sight distance is adequate in the northeast and northwest quadrants and inadequate in the southeast and southwest quadrants.

The exposure factor at this crossing is 63,000. The exposure factor at this crossing will exceed 99,500 in the design year assuming 10 train movements per day. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Two train-vehicle accidents have occurred at this crossing since 1973. The accidents occurred in 1982 and 1999.

The Wisconsin Department of Transportation has produced a benefit-cost analysis for all at-grade crossings in the state. Installing new automatic flashing lights with gates and constant warning time circuitry at the Letendre Avenue crossing has a net benefit of about \$332,800. The benefit-cost ratio is about 2.93 meaning that the public will receive \$2.93 in safety benefits for each dollar expended. For automatic flashing lights without gates, the net benefit would be \$271,000 with a benefit-cost ratio of 9.78.

The crossing presently has cantilevered (non-walkout) 8" automatic flashing lights with a sidelight for 5<sup>th</sup> Street and motion sensor circuitry for warning devices. These warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety it is necessary to install and maintain either mast-mounted 12" LED automatic flashing lights with gates and constant warning time circuitry or cantilevered 12" LED automatic flashing lights with gates and constant warning time circuitry. If the DOT decides to install a median on each approach to the crossing, then mast-mounted signals with gates will be adequate. If DOT decides not to install medians, then cantilevered automatic flashing lights with gates will be needed. Gates are required because of the inadequate clearing sight distance.

### **Port Road (STH 73)**

DOT proposes to route a multi-use trail over the crossing. The trail will cross within the confines of the existing crossing so that the crossing will not be altered. DOT requested that the OCR order the installation of LED lamps on the existing signals.

Port Road carries 6900 ADT. The speed limit is 25 mph.

There are six through train movements per day over the Port Road crossing location at a timetable speed of 25 mph. The railroad also operates 6 switch movements per day.

The exposure factor at this crossing is about 83,000.

Two train-vehicle accidents have occurred at this crossing since 1973. Both accidents occurred in 1974. Lights and gates were installed in 1974 after those two accidents.

The crossing presently has cantilevered (non-walkout) 12" automatic flashing lights and gates with constant warning time circuitry for warning devices. Some of the signal lights are incandescent and some are LEDs. These warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety, 12" LEDs are needed on all signals at the crossing.

*Constant warning time circuitry* adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

*Light emitting diodes (LED)* are a relatively new application for crossing signals. The LED lamps replace the incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

**Cost-sharing and Source of funding:** The DOT proposes to pay 85% of the cost to replace the existing Letendre Avenue (STH 54/73) crossing pursuant to s. 86.13 (5). The signal materials and installation shall be paid from highway project funds.

#### Ultimate Conclusions on the Issues

#### THE COMMISSIONER CONCLUDES:

1. That the improvement of the crossing at-grade of Letendre Avenue (STH 54/73) with the Wisconsin Central Ltd. tracks in accordance with the design plans of the Wisconsin Department of Transportation in the Village of Port Edwards, Wood County will promote public safety and convenience.
2. That in order to adequately protect and promote public safety, it is necessary to install and maintain either mast-mounted 12" LED automatic flashing lights with gates and constant warning time circuitry or cantilevered 12" LED automatic flashing lights with gates and constant warning time circuitry at the Letendre Avenue (STH 54/73) crossing.
3. That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED lamps on the existing signals at the Port Road (STH 73) crossing.
4. That it is reasonable that the Wisconsin Central Ltd. bear 15% of the cost for the Letendre Avenue (STH 54/73) crossing construction.

## Conclusion of Law

### THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §§86.13, 195.28 and 195.29, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

### Order

### THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain a concrete-panel crossing at-grade of **Letendre Avenue (STH 54/73)** with its tracks in accordance with the design plans of the Wisconsin Department of Transportation in the Village of Port Edwards, Wood County by **August 1, 2005** (Crossing No. 392 710T / MP 45.14).

2. That the **Wisconsin Central Ltd.** shall install and maintain either mast-mounted 12" LED automatic flashing lights with gates and constant warning time circuitry or cantilevered 12" LED automatic flashing lights with gates and constant warning time circuitry and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **Letendre Avenue (STH 54/73)** at-grade in the Village of Port Edwards, Wood County by **September 1, 2005** (Crossing No. 392 710T / MP 45.14). The **Wisconsin Department of Transportation** shall inform the Wisconsin Central Ltd. whether cantilevered or mast-mounted signals are needed, based upon whether a median is constructed or not.

3. That the **Wisconsin Central Ltd.** shall install and maintain 12" LED lamps on the existing signals with appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **Port Road (STH 73)** at-grade in the Village of Port Edwards, Wood County by **September 1, 2005** (Crossing No. 392 709Y / MP 43.97).

4. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

5. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

6. That the **Wisconsin Central Ltd.** shall bear 15% of the cost of the **Letendre Avenue (STH 54/73)** crossing construction. The highway project shall bear the remaining costs, except for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

7. That jurisdiction is retained.

Dated at Madison, Wisconsin, \_\_\_\_\_.

By the Office of the Commissioner of Railroads.

---

Rodney W. Kreunen  
Commissioner of Railroads

9164F543